

### REMARKS

Applicant has argued over the Examiner's rejection.

#### 103 Rejection

The Examiner has rejected claims 1-20 over LaBate in view of Soofi. The Examiner notes that LaBate teaches a plurality of overlapping panels and Soofi describes an adjustable frame. The Examiner argues one skilled in the art would have considered obvious the combination of an adjustable frame with overlapping panels. Applicant believes the cited references cannot be combined as suggested by the Examiner but, if combined, would be inoperative.

In light of *KSR v. Teleflex*, 550 U.S. 398, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007), the USPTO issued new rules for ascertaining obvious. Specifically, examiners must make explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done. Obviousness rejections “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, quoting *In re Kahn*, 441 F.3d 977, 78 USPQ2d 1329 (Fed. Cir. 2006).

Appropriate rationales include (1) the combination or substitution of prior art elements to yield predictable results or (2) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. The Court recognized that “when a patent claims a structure already known in the prior art that is

altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *Id.* at 1395.

The claims of the present invention describe at least two adjustable panels capable of relative movement an adjustable strut is adjusted. Applicant believes the Examiner has improperly combined elements of the prior art to arrive at the present invention. The Examiner combines the preformed panels of LaBate with the adjustable frame of Soffi. Applicant does not believe the references can be combined as suggested by the Examiner to produce the present invention. Specifically, the combination would not produce panels capable of relative movement. One of ordinary skill in the art could not have combined the elements of the prior art, that is the adjustable frame of Soofi with the immovable panels of LaBate, without altering their function.

LaBate teaches a plurality of pre-formed panels 11 fixed to a rigid frame 12. Notably, LaBate is not concerned with forming a mold for castable material but with placing a preformed lining into a tundish. The frame comprises "steel angles welded to one another at their points of engagement to form a rigid structure." Col. 2, lines 26-28. Frame members 13, 15 "add additional rigidity." Col. 2, line 57. The panels are identified as "pre-formed" or "pre-shaped." See, e.g., col. 3, lines 8 and 47, respectively. Figure 5 shows adjacent preformed panels joined by a lap joint. Lap joints are a common means of fixedly joining pieces. Lap joints restrict relative motion. LaBate presumably uses a lap joint, over a simple butt joint, to provide greater bonding surface between panels and reduce the chance of egress of molten metal. Lap joints do not permit relative movement of the panels. LaBate requires a rigid frame and fixed panels so that the panels can be accurately placed in the tundish without leakage of molten metal.

Consequently, LaBate actually teaches away from an adjustable frame because the LaBate frame must be rigid and the panels must be preformed and immovable relative to each other. LaBate does not anticipate or suggest an adjustable form, or a plurality of panels that are movable relative to each other.

In contrast, Soofi does describe an adjustable form. The form 30 includes a flexible consumable form 32 wrapped around an adjustable frame 40. “The consumable form 32 can be constructed of any flexible, lightweight porous material.” Col. 3, line 41-42. (emphasis added) The claims identify the consumable form as “an open-mesh screen.” Soofi uses the adjustable form to produce a space between the consumable form and the inner surface of the tundish. Castable material can be placed into the space. The cured castable defines the tundish lining. In practice, an adjustable frame can be sized to fit the tundish and the consumable form can be stretched around the frame. The consumable form is a flexible, open-mesh screen. Soofi does not describe a rigid panel or panels capable of relative movement. By requiring a flexible consumable form, Soofi teaches away from the present invention.

LaBate teaches rigid panels. Soofi describes an adjustable frame. The operative question is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *KSR* at 1396. Applicant believes the panels and adjustable frame of the invention do more in combination than in the cited references. *Cf., Id.* at 1395 (noting that obviousness would exist if the combination of pre-existing elements did no more than they would in the cited references). Neither LaBate nor Soofi teach or suggest rigid panels that are capable of relative movement. LaBate teaches against movable panels. Soofi teaches against rigid panels.

The Examiner combines the adjustable frame of Soofi and the fixed panels of LaBate. Applicant believes such a combination would be an inoperable chimera and could not produce the claimed invention. The panels of LaBate are rigidly secured and are not capable of relative movement. Such panels on the adjustable frame of Soofi would render the frame rigid. Conversely, the adjustable frame of Soofi would produce gaps between the pre-formed panels of LaBate.

In conclusion, the combination of LaBate and Soofi would not yield a predictable result but would yield an unworkable device. Further, neither reference teaches or suggests their combination so that one of ordinary skill would combine the references to arrive at the claimed invention. LaBate actually teaches away from an adjustable form. Applicant respectfully requests cancelation of the rejection and allowance of claims 1-20.

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